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THE STATUS OF *OCHTODES CAPENSIS* (J. AGARDH) J. AGARDH (RHIZOPHYLLIDACEAE, GIGARTINALES, RHODOPHYTA)

D. Reid Wiseman

(*Department of Biology, North Carolina Central University, Durham, North Carolina, U.S.A.*)

Abstract

Evidence is presented that suggests that the red alga *Sphaerococcus capensis* J. Agardh = *Ochtodes capensis* (J. Agardh) J. Agardh was erroneously reported from the Cape of Good Hope and that this species should be placed in synonomy under the Western Atlantic taxon *Ochtodes secundiramea* (Montagne) M. A. Howe.

Uittreksel

DIE STATUS VAN *OCHTODES CAPENSIS* (J. AGARDH) J. AGARDH (RHIZOPHYLLIDACEAE, GIGARTINALES, RHODOPHYTA)

Bewyse word aangelewer dat die rooi alga *Sphaerococcus capensis* J. Agardh = *Ochtodes capensis* (J. Agardh) J. Agardh verkeerdelik aangemeld was vanaf Kaap Die Goeie Hoop en dat die soort as 'n sinoniem geplaas behoort te word onder die Wes-Atlantiese takson *Ochtodes secundiramea* (Montagne) M. A. Howe.

Introduction

The marine algal flora of South Africa has long been of especial interest to phycologists because of its richness and diversity. A measure of the intensity of this interest may be gained by a perusal of a guide to the literature of the marine algae of this region compiled by Seagrief and Troughton (1973). The status of a species originally described by J. Agardh (1852) from the Cape of Good Hope as *Sphaerococcus capensis* and then transferred by Agardh (1872) to the genus *Ochtodes* as *O. capensis* is reviewed.

Historical Résumé

When J. Agardh (1872) established the genus *Ochtodes*, he based his concept of the genus on three taxa: *O. filiformis* (J. Agardh) J. Agardh from Martinique in the West Indies; a variety of this species from St. Barthélemy given the varietal epithet *cervicornis* by Agardh; and *Ochtodes capensis*. The generic name, derived from the Greek *ochthodes* which means humped or warted, was chosen by Agardh because of the prominent cystocarpic protuberances of the variety. Agardh (1852) had previously placed the above cited species with doubt into the genus *Sphaerococcus sensu* Greville as *S. filiformis* J. Agardh and *S. capensis* because the variety was apparently not available to him at this time and the two species did not have distinguishing reproductive features to separate them from

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Sphaerococcus. His separation of these two species was based on differences in branching patterns.

Schmitz (1889) recognised J. Agardh's erection of the genus *Ochtodes* as a separate taxon and, since there was no generic holotype, he made *O. filiformis* (J. Agardh) J. Agardh the lectotype. Howe (1920) found that *O. filiformis* is a later homonym of *O. secundiramea* (Montagne) Howe and is, therefore, illegitimate and cannot serve as the type of the genus. The family to which *Ochtodes* has traditionally been assigned, the Rhizophyllidaceae, has been recognised as a member of the Cryptonemiales, however, based on the non-accessory nature of the auxiliary cell branch, Wiseman (1975) has transferred the family to the Gigartinales.

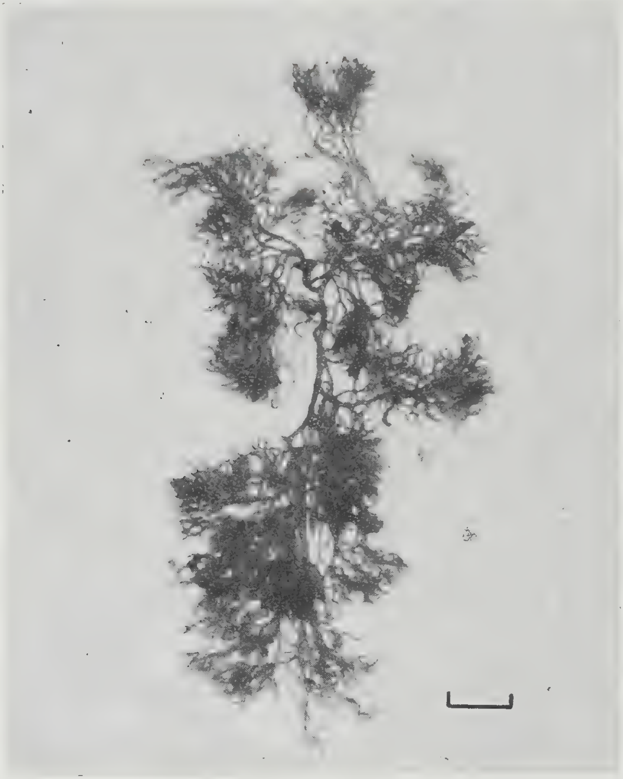

FIG. 1.
Type specimen of *Sphaerococcus capensis* J. Agardh = *Ochtodes capensis* (J. Agardh) J. Agardh in the Agardh Herbarium (No. 27121) at Lund. Scale 1 cm.

Agardh's original description of *Sphaerococcus capensis* was based on a specimen (or specimens?) sent to him by the brothers Crouan. Since Agardh did not indicate the collector, and the type specimen (Fig. 1) and only specimen of this species in the Agardh Herbarium (No. 27121) is without collection data beyond Table Bay, the Cape of Good Hope inscribed in French by one of the Crouans, the collector remains unknown. The Crouans apparently did not collect outside of Brittany (Dixon, 1967).

Picquenard (1912), who compiled a catalogue of the specimens in the Crouan herbarium at Concarneau, referred to a single specimen of *O. filiformis* which he identified, but he made no reference to *O. capensis*. Picquenard noted that the collector and locality of the specimen was unknown, and that he assumed that it was from the West Indies. Not having seen this specimen, I would hesitate to suggest that it came from the original material upon which Agardh made his circumscription of *O. capensis*, nevertheless, since the specimen at Concarneau is without collection data, and the data of the specimen of *O. capensis* at Lund was inscribed by one of the Crouans, this does raise the possibility that the Crouans might have inadvertently written the wrong locality on the specimen that they sent to Agardh.

There is no published record of *O. capensis* having been recollected and identified as this species from South Africa. Dr. G. F. Papenfuss (personal communication) has informed me that Table Bay is one of the more heavily collected sites in South Africa. The fact that this species ostensibly has not been reported again from South Africa does not preclude the possibility that it has been recollected but remains unidentified or misidentified. This seems unlikely because the double-helicoid biaxis of the genus is so striking and unique within the red algae that identification is not difficult. More than likely, the specimen sent to Agardh by the Crouans was collected in the West Indies by Mazé and Schramm and forwarded to the Crouans who were responsible for making many of the determinations for these collectors.

PRESENT STATUS

The type specimen, and possibly the only extant specimen annotated as *Sphaerococcus capensis* and *Ochtodes capensis*, is spermatangial and has the unique biaxial structure of the genus *Ochtodes*. Agardh observed the axial structure of this species, but did not comment on the spermatangial branches which are difficult to distinguish from outer cortical cells. In *Ochtodes* the spermatangial branches collectively form a nemathecium. The dimensions of these branches in the type specimen of *O. capensis* do not differ from the dimensions of the same branches of *O. secundiramea*. The congested, corymbose branching pattern of the type specimen of *O. capensis* does not differ from the branching pattern of many specimens of *O. secundiramea* from the Western Atlantic.

The morphological evidence as well as the historical ambiguities surrounding *O. capensis*, suggests that this species be recognised as being conspecific with *O. secundiramea*, and, accordingly, should be placed in synonomy under the latter species. This decision appears to be the most judicious one at this time, but if tetrasporangial and/or female plants are recollected from South Africa, the conspecificity of the two taxa will have to be re-evaluated.

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